

**65**

**63.** The system of claim **57** wherein each such signal-processing channel means further comprises:

means for determining energy contributed to said brain-wave signal over a predefined time interval due to components lying within said associated predefined range of frequencies. 5

**64.** The system of claim **57** wherein said output-measure-determining means comprises a summer.

**65.** A system adapted to measure in a human subject a state along a continuum relating to alertness, drowsiness, sleep, unconsciousness, or anesthesia comprising: 10

means for acquiring a brain-wave signal including rhythmic components from the subject;

means for selecting components of said brain-wave signal lying in a predetermined range of frequencies including frequencies above 30 Hz; and 15

means responsive to components of said signal corresponding to frequencies lying in said range for producing an output-measure signal indicative of said state of the subject; 20

said means for producing said output-measure signal being adapted to modify its response when artifact is present in said brain-wave signal.

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**66.** The system of claim **65** wherein:

said means for producing said output-measure signal causes said output-measure signal to change in a first direction when said state of the subject approaches alertness; and

said means for producing said output-measure signal causes said output-measure signal to change in said first direction responsive to presence of artifact in said brain-wave signal.

**67.** The system of claim **65** wherein:

said means for producing said output-measure signal causes said output-measure signal to change in a first direction when said state of the subject deviates from alertness; and

said means for producing said output-measure signal to change in a direction opposite from said first direction responsive to presence of artifact in said brain-wave signal.

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